REMARKS

Applicant respectfully requests the Examiner's reconsideration of the present application as amended.

Claims 1-6, 12-15, 17-20, 24-27, and 31-35 are pending in the present application.

The specification is objected to.

Claims 13 and 15 are rejected under 35 U.S.C. §112, first paragraph.

Claims 1, 3, 5, 12, 18, 19, and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2003/0009705 ("Thelander") in view of U.S. Patent Publication No. 2003/0085621 ("Potega"), U.S. Patent Publication No. 2004/0243376 ("Karunaratne"), and U.S. Patent No. 5,600,841 ("Culbert").

Claims 13-15, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Thelander in view of U.S. Patent 6,285, 886 ("Kamel") and U.S. Patent No. 6,907,482 ("Maciesowics").

Claims 31-35 are allowed.

Claims 2, 4, 6, and 20 are objected to as being dependent upon a rejected base claim.

Claims 1, 13 15, and 18 have been amended.

Claims 39-47 have been added.

Support for amended claims 1 and 18 are found in paragraph [0023] and [0027]. Support for amended claims 13 and 15 are found in paragraphs [0024], [0032]-[0033], [0041]-[0048], and Figures 2, 4, and 5. Support for claims 39-47 is found in paragraphs [0019]-[0045], and Figures 2, 4, and 5. No new matter has been added.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter.

Claims 13 and 15 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action mailed 3/21/2007 states in part that

> Claim 13, line 6 and line 10 "update the frequency for the power is sufficient" The power data is sufficient are not found in the specification. Claim 13, line 8, "update the frequency is insufficient". The update frequency is insufficient are not found in the specification. Claim 15, line 2, "update frequency is insufficient". The update frequency is insufficient are not found in the specification.

(3/21/2007 Office Action, pp. 2-3).

Applicant has amended claims 13 and 15 to include the limitation of determining a systematic error of an update frequency for power data and performing an additional procedure in response to the systematic error of the update frequency exceeding a threshold value. As stated above, support for the amendment is found in [0024], [0032]-[0033], [0041]-[0048], and Figures 2, 4, and 5.

Applicant submits that in view of the amendment to claims 13 and 15, the objection to the specification and rejection to claims 13 and 15 under 25 U.S.C. §112, first paragraph, has been overcome.

Claims 1, 3, 5, 12-15, 17-19, and 24 are rejected under 35 USC §103(a) as being unpatentable over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

Applicant submits that claims 1, 3, 5, 12-15, 17-19, 24, and 39-48 are patentable over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

Thelander includes a disclosure of a method and system for controlling the power management profiles of computers connected through a network. The method and system monitoring the electrical power use of each computer in the network, and reports this information to an authorized party, such as the network administrator. According to the method and system, an authorized party may configure and maintain a power management profile for each computer in the network. In particular, the authorized party may individually configure and maintain a power management profile for each computer. Alternately, each computer in the network can be classified in a group, and the authorized manager can then configure and maintain a single power management profile shared by each computer in the group (Thelander Abstract).

Potega includes a disclosure of a power supply that detects power requirements of an electrical device and configures itself to provide the correct power to the device. By using a connector that isolates the device from its battery, the power supply can provide power to the device, recharge the battery, recharge the battery while at the same time providing power to the device, or provide power to the device while preventing the battery from being recharged. A switch used with the connector creates various circuits and is controllable by the power supply, the electrical device, by signals from the electrical device, or by a third device. The power supply may provide power to a plurality of devices and may be used with other power supplies to form a power grid. A master control unit receives inputs from each of the power supplies and controls the delivery and supply of power being the power supplies (Potega Abstract).

Karunaratne includes a disclosure of a method for estimating a power requirement of a circuit design that includes steps of: (a) selecting a set of targeted Energy Arcs and/or Power Arcs; (b) creating one or more circuit states using the set of targeted Energy Arcs and/or Power Arcs; (c) back-tracing the one or more circuit states over one or more simulation clock cycles to form a start circuit state and a stimulus segment; (d) simulating the stimulus segment in forward time progression and determining which Event Arcs in Energy Arcs and/or which Condition Arcs in Power Arcs are satisfied at each stimulus clock cycle; and (e) recording data at each stimulus clock cycle that is utilized to estimate the power requirement (Karunaratne Abstract).

Culbert includes a disclosure of a method, system, and apparatus for controlling the supply of power to an I/O device attached to a General Purpose Input/Output (GPIO) circuit in a personal digital assistant (PDA). The GPIO circuit, which is responsible for supplying power to the attached I/O device, includes a pin enable circuit coupled to the power pin of the I/O device, where the pin enable circuit includes a contingency register holding a contingency bit and a power register which controls the power supply to the I/O device power pin. The contingency bit is reflective of a power supply priority of the I/O

device, where the priority is determined by the type of the I/O device and whether or not the I./O device is recognized (Culbert Abstract).

Kamel includes a disclosure of a power control method applied to downlink power control, uplink power control, or both to support different quality of service levels for multiple channels per a mobile station. The power control method transmits control data between a base station and a multi-channel mobile station on a single communications channel or sub-channel to minimize or reduce overhead traffic from the control data (Kamel Abstract).

Maciesowicz includes a disclosure that Universal Graphics Adapter (UGA) is a hardware-independent design that encapsulates and abstracts low-level graphics hardware in a standard manner through firmware. UGA is a firmware standard, intended to wrap existing or planned hardware, including VGA. UGA does not require the use of real-mode assembly language, direct hardware register, or frame buffer access to program, thus providing advantages over conventional systems. UGA supports basic drawing operations, continuous display modes, and power management. As a firmware-based standard, UGA facilitates updating a system to support both evolving and new hardware features (Maciesowicz Abstract).

Applicant submits that Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics do not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery.

The Office Action mailed 3/21/2007 acknowledges that Thelander does not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery, wherein the power data includes a power capacity of a battery and a discharge rate of the battery.

> Thelander et al. fail to disclose determining an amount of power used by a system running an application over the time period from power data supplied to an operating system by a battery over the time period.

(3/21/2007 Office Action, p. 4).

The Office Action mailed 3/21/2007 states in part that

> Potega teaches steps of determining an amount of power used by a system running an application over the time period from power data supplied to an operating system by a batter over the time period (computer running power management software monitors status of battery and control power supplied, [282]-[285], [183]-[187]).

(3/21/2007 Office Action, p. 4).

Applicants submits that having a "computer running power management software [that] monitors [the] status of [a] battery" is not equivalent to determining a net power consumption of an application from power data supplied to an operating system by a battery, wherein the power data includes a power capacity of the battery and a discharge rate of the battery.

On the contrary, paragraphs [282]-[285] cited in Potega by the Office disclose a supplied device 705 that relies on its power management software to monitor the status of its battery 719, and to direct a controllable power supply 745 to alter its power signal to match the supplied device's specified voltage. The power management software, however, only obtains a voltage from the battery 719. The battery 719 does not supply power data to an operating system, where the power data includes power capacity of the battery 719 and a discharge rate of the battery of the battery 719 (see Potega [0282] and Figure 5b).

Furthermore, paragraphs [183]-[187] cited in Potega by the Office disclose a current signature look-up table for monitored hardware devices on a computer system. The observed change in current load is compared with the values in the look-up table to determine whether battery charging is occurring (see Potega [0182], [0183], and [0187]). Paragraphs [183]-[187] does not provide any disclosure or reference to power data, supplied to an operating system by a battery, that includes both the power capacity of the battery and the discharge rate of a battery.

Karunarantne only discloses a method for estimating power requirements of circuit designs. Karunarantne does not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery.

Culbert only discloses a method and apparatus for anticipatory power management for power data. Culbert does not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery.

Kamel only discloses a method for controlling power for a communication system having multiple traffic channels per subscriber. Kamel does not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery.

Maciesowics only discloses a universal graphic adapter for interfacing with hardware and means for encapsulating and abstracting details of the hardware. Maciesowics does not teach or suggest determining a net power consumption of an application from power data supplied to an operating system by a battery.

In contrast, claim 39 states

> A power evaluation unit, comprising:
> a data retriever unit to retrieve power data supplied to an operating system by a battery, wherein the power data includes a power capacity and a drain rate of the battery; and
> a data processor unit to determine a net power consumption of an application from the power data.

(Claim 39) (Emphasis Added).

Claim 1, 13, 18 and 42 include the limitation of determining a net power consumption of an application from power data supplied to an operating system by a battery. Given that claims 2-6, and 12 depend from claim 1, claims 14-15, and 17 depend from claim 13, claims 19-20, and 24 depend from claim 18, claims 40-41 depend from claim 39, and claims 43-47 depend from claim 42, it is likewise submitted that claims 2-6, 12, 14-15, 17, 19-20, 24, 40-41, and 43-47 are also patentable under 35 U.S.C. §102(b) over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

Applicant further submits that Thelander, Potega, Karunaratne , Culbert, Kamel, and Maciesowics do not teach or suggest determining a systematic error of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

The Office Action mailed 3/21/2007 states in part that

> Potega discloses detemining a systematic error of power data (e.g. [0118], [0273]-[0275])

(3/21/2007 Office Action, p. 4).

Paragraph [0118] of Potega discloses an "error state" when a regulator is over-voltaged. Applicant submits that the described "error state" is for a state of a regulator and is not 1) equivalent to a systematic error of power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery, or 2) used for determining an amount of power used by a system. Paragraphs [0273]-[0275] of Potega only describes some of the functionalities of the power supply 745 shown in Figure 5b. Applicant requests that the Office clarify the relevance of the cited text in Potega to the claimed invention.

Thelander only discloses monitoring and synchronizing power use of computers in a network. Thelander does not teach or suggest determining a systematic error of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

Karunarantne only discloses a method for estimating power requirements of circuit designs. Karunarantne does not teach or suggest determining a systematic error of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

Culbert only discloses a method and apparatus for anticipatory power management for power data. Culbert does not teach or suggest determining a systematic error of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

Kamel only discloses a method for controlling power for a communication system having multiple traffic channels per subscriber. Kamel does not teach or suggest determining a systematic error

of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

Maciesowics only discloses a universal graphic adapter for interfacing with hardware and means for encapsulating and abstracting details of the hardware. Maciesowics does not teach or suggest determining a systematic error of the power data supplied to an operating system by a battery, wherein the power data describes a power capacity and a drain rate of the battery.

In contrast, claim 1 states

> A method for managing power data, comprising:
> determining an amount of power used by a system running an application over a first time period from power data supplied to an operating system by a battery over the first time period;
> determining an amount of power used for the system in a baseline state over a second time period from power data supplied to the operating system by the battery over the second time period, wherein the power data describes a power capacity and a drain rate of the battery;
> determining a net power consumption of the application from the amount of power used by the system running the application and the amount of power used by the system in the baseline state;
> determining a systematic error of the power data used for determining the amount of power used by the system running the application by dividing an update granularity of the power data by the first time period; and
> generating an indication to a user if the systematic error exceeds a predetermined value.

(Claim 1 As Amended) (Emphasis Added).

Claims 13 and 18 also include the limitation of determining a systematic error. Given that claims 2-6, and 12 depend from claim 1, claims 14-15, and 17 depend from claim 13, claims 19-20, and 24 depend from claim 18, it is likewise submitted that claims 2-6, 12, 14-15, 17, 19-20, 24 are also patentable under 35 U.S.C. §102(b) over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

Applicant further submits that Thelander, Potega, Karunaratne , Culbert, Kamel, and Maciesowics do not teach or suggest determining a systematic error of power data by dividing an update granularity of the power data by a first time period.

The Office Action mailed 3/21/2007 states in part that

> The combination of Thelander et al. and Potega fail to teach dividing the update granularity of the power data by the timer period; and generating an indication to a user if the systematic error exceeds a predetermined value.
> Karunaratne teaches dividing the update of the power data by the time period (e.g. [0074]).

(3/21/2007 Office Action, p. 5).

Applicant submits that paragraph [0074] of Karunaratne does not provide a disclosure of or make any reference to an update granularity of power data, less dividing the update granularity of the power data by a time period. Applicant requests that the Office clarify the relevance of the cited text in Karunaratne to the claimed invention.

Culbert only discloses a method and apparatus for anticipatory power management for power data. Culbert does not teach or suggest determining a systematic error of power data by dividing an update granularity of the power data by a first time period.

Kamel only discloses a method for controlling power for a communication system having multiple traffic channels per subscriber. Kamel does not teach or suggest determining a systematic error of power data by dividing an update granularity of the power data by a first time period.

Maciesowics only discloses a universal graphic adapter for interfacing with hardware and means for encapsulating and abstracting details of the hardware. Maciesowics does not teach or suggest determining a systematic error of power data by dividing an update granularity of the power data by a first time period.

In contrast, claim 1 states

> A method for managing power data, comprising:

> determining an amount of power used by a system running an application over a first time period from power data supplied to an operating system by a battery over the first time period;
> determining an amount of power used for the system in a baseline state over a second time period from power data supplied to the operating system by the battery over the second time period, wherein the power data describes a power capacity and a drain rate of the battery;
> determining a net power consumption of the application from the amount of power used by the system running the application and the amount of power used by the system in the baseline state;
> determining a systematic error of the power data used for determining the amount of power used by the system running the application by dividing an update granularity of the power data by the first time period; and
> generating an indication to a user if the systematic error exceeds a predetermined value.

(Claim 1 As Amended) (Emphasis Added).

Claims 13 and 18 also include the limitation of determining a systematic error. Given that claims 2-6, and 12 depend from claim 1, claims 14-15, and 17 depend from claim 13, claims 19-20, and 24 depend from claim 18, it is likewise submitted that claims 2-6, 12, 14-15, 17, 19-20, 24 are also patentable under 35 U.S.C. §102(b) over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

Applicant further submits that Thelander, Potega, Karunaratne , Culbert, Kamel, and Maciesowics do not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

The Office Action mailed 3/21/2007 states in part that

> Culbert et al. teach generating an indication to a user if the systematic error exceeds a predetermined value (e.g. Col. 8, lines 8-12).

(3/21/2007 Office Action, p. 5).

Column 8, lines 8-12 of Culbert states

> The advantages of the invention will now be apparent. Using the method, and system of the invention, power loss can be

> reduced in low power computing devices such as PDAs to thereby afford users a greater range of use for these devices.

(Culbert, Column 8, lines 8-12).

Applicants submit that the text cited by the Office does not disclose generating an indication to a user if a systematic error of power data exceeds a predetermined value. Applicant respectfully requests that the Office clarify the relevance of the cited text.

Thelander only discloses monitoring and synchronizing power use of computers in a network. Thelander does not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

Potega only discloses power supply methods and configurations. Potega does not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

Karunarantne only discloses a method for estimating power requirements of circuit designs. Karunarantne does not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

Kamel only discloses a method for controlling power for a communication system having multiple traffic channels per subscriber. Kamel does not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

Maciesowics only discloses a universal graphic adapter for interfacing with hardware and means for encapsulating and abstracting details of the hardware. Maciesowics does not teach or suggest generating an indication to a user if a systematic error of a power data exceeds a predetermined value.

In contrast, claim 1 states

> A method for managing power data, comprising:
> determining an amount of power used by a system running an application over a first time period from power data supplied to an operating system by a battery over the first time period;
> determining an amount of power used for the system in a baseline state over a second time period from power data supplied to the operating system by the battery over the second

> time period, wherein the power data describes a power capacity and a drain rate of the battery;
>
> determining a net power consumption of the application from the amount of power used by the system running the application and the amount of power used by the system in the baseline state;
>
> determining a systematic error of the power data used for determining the amount of power used by the system running the application by dividing an update granularity of the power data by the first time period; and
>
> generating an indication to a user if the systematic error exceeds a predetermined value.

(Claim 1 As Amended) (Emphasis Added).

Claims 13 and 18 also include the limitation of determining a systematic error. Given that claims 2-6, and 12 depend from claim 1, claims 14-15, and 17 depend from claim 13, claims 19-20, and 24 depend from claim 18, it is likewise submitted that claims 2-6, 12, 14-15, 17, 19-20, 24 are also patentable under 35 U.S.C. §102(b) over Thelander, Potega, Karunaratne, Culbert, Kamel, and Maciesowics.

In view of the amendments set forth herein, it is respectfully submitted that the applicable rejections and have been overcome. Accordingly, it is respectfully submitted that claims 1-6, 12-15, 17-20, 24-27, 31-35, and 39-47 should be found to be in condition for allowance.

The Examiner is invited to telephone Applicant's attorney (217-377-2500) to facilitate prosecution of this application.

If any additional fee is required, please charge Deposit Account No. 50-1624.

Respectfully submitted,

Dated: July 19, 2007

Lawrence M. Cho
Attorney for Applicant
Registration No. 39,942

Customer Reg. No. 45512

Lawrence Cho Attorney at Law
C/O PortfolioIP
P.O. Box 52050
Minneapolis, MN 55402
217-377-2500

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 19 day of July, 2007.

Cheryl Schwartz
Name

Cheryl Schwartz
Signature